

CLAIMS

1. A mineralizer used for a process for obtaining bulk mono-crystalline gallium-containing nitride in a supercritical ammonia-containing solvent which provides:
 - (a) ions of another Group I element (IUPAC 1989), or
 - (b) ions of Group II element (IUPAC 1989), preferably calcium or magnesium, or
 - (c) one or more substances containing oxygen-free species causing a weakening of the ammono-basic nature of the supercritical solvent, or else
 - (d) ions of Group II element (IUPAC 1989), preferably calcium or magnesium and one or more substances containing oxygen-free species causing a weakening of the ammono-basic nature of the supercritical solventin a supercritical ammonia-containing solvent for dissolution of the gallium-containing feedstock.
2. A mineralizer according to claim 1. which is able to provide the gallium containing nitride with a negative temperature coefficient of solubility in the supercritical ammonia-containing solvent .
3. A mineralizer according to claim 1 or 2, which comprises sodium and another Group I element (IUPAC 1989) and the molar ratio of ions of sodium to ions of other Group I element (IUPAC 1989) is from 1:10 to 10:1.
4. A mineralizer according to claim 1 or 2, which comprises ions of Group I element (IUPAC 1989) and ions of Group II element (IUPAC 1989) and the molar ratio of Group II element (IUPAC 1989) to the Group I element (IUPAC 1989), ranges from 1:500 to 1:5, more preferably from 1:100 to 1:20.
5. A mineralizer according to claim 1 or 2, wherein said oxygen-free species contain sulfur.
6. A mineralizer according to any one of the preceding claims 1 to 5, which comprises said Group I elements selected from the group consisting of sodium, potassium and lithium.

7. A mineralizer according to any one of the preceding claims 1 to 6, wherein said Group I elements are in the form of azides.
8. A mineralizer accordintg to any one of the preceding claims 1 to 7, which further comprises acidic mineralizer containing sulfur or halogen.
9. A mineralizer according to claim 8, wherein said mineralizer is selected form the group consisting of sulphides such as $(\text{NH}_4)_2\text{S}$, $(\text{NH}_4)\text{HS}$ and $(\text{NH}_4)_2\text{S}_5$